DRAFT BIOLOGICAL ASSESSMENT

For the

Tule River Reservation Protection Project

WESTERN DIVIDE RANGER DISTRICT
GIANT SEQUOIA NATIONAL MONUMENT
SEQUOIA NATIONAL FOREST
Tulare County, California

PREPARED By: _____ DATE 4/11/2014
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SUMMARY

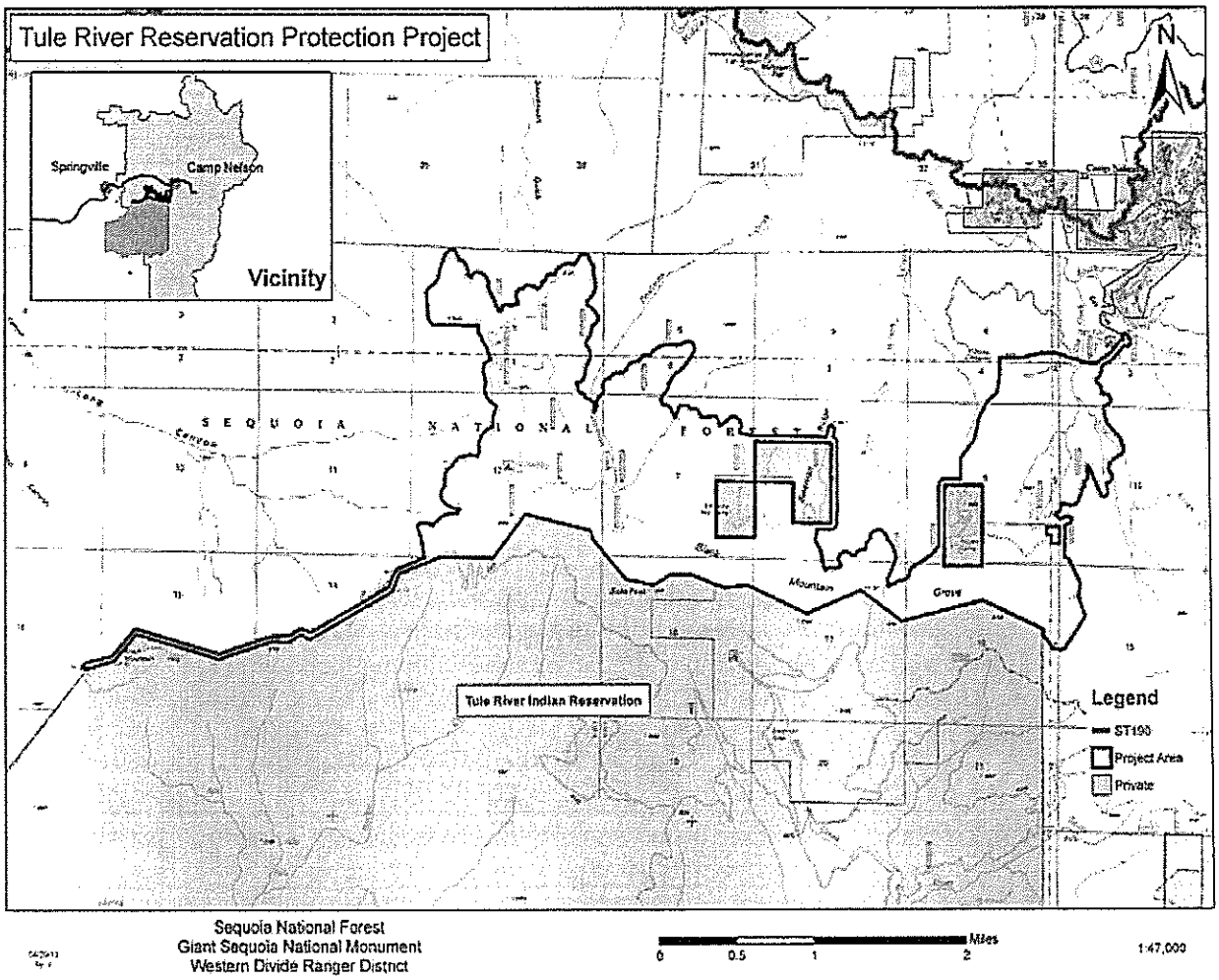
This Biological Assessment (BA) analyzes the potential impacts associated with implementation of the Tule River Reservation Protection Project (TRRP) Environmental Impact Statement (EIS) on the California condor. This document evaluates three alternatives for reducing the threat of wildfire entering the Tule River Indian Reservation from National Forest System lands. Action alternatives respond at different levels to the major issues and concerns identified during the planning process, and utilize a combination of treatment methods. Methods include mechanical thinning of small trees (12"or less) and brush, prescribed fire, and removal of hazard trees when deemed a health and safety risk. This work is being proposed through a request made under the Tribal Forest Protection Act instituted by Congress in 2004. The Tule River Reservation Protection Project responds to the need for an area of reduced fuel to increase protection of lands administered by Tule River Reservation from wildfire, as well as, increase fire protection around two private in-holdings on Forest Service land. This document is prepared in compliance with the requirements of FSM 2672.4 and 36 CFR 219.19.

This Biological Assessment addresses only the California condor (*Gymnogyps californianus*) in detail. All other threatened or endangered species were addressed in Appendix A of this document. Based on the analysis, a determination of "**May Affect but Not Likely to Adversely Affect the California Condor**" was rendered for all Action Alternatives, with a "**No Effect**" determination rendered for California condor Critical Habitat as previously designated by the US Fish and Wildlife Service (USFWS).

I. INTRODUCTION

The purpose of this Biological Assessment (BA) is to review the potential effects of Tule River Reservation Protection Project (TRRP Project) Environmental Impact Statement on species classified as federally endangered or threatened under the Endangered Species Act (ESA, 1973). This document was prepared in accordance with the legal requirements set forth under Section 7 of the ESA (19 U.S.C 1536 (c)) and follows the standards established in Forest Service Manual direction (FSM 2672.42). The TRRP Project encompasses an estimated 2,838 acres, and is located within the Giant Sequoia National Monument on the Western Divide Ranger District in T.21 S., R.30 E., Sections 1, 12-16, and T.21 S.,R. 31 E., Sections 3, 4, 6-10, and 15- 18, Mount Diablo Base and Meridian (Map 1).

Map 1: Tule River Reservation Protection Project Area Vicinity Map.



The species considered under this assessment are listed in Table 1. Appendix A includes a listing of other threatened or endangered species that have the potential to occur within the vicinity of Sequoia National Forest, but were eliminated from the need for detailed analysis based on criteria related to the scope and intensity of the project, species season of use, habitat requirements, or geographic range. See the "Consultation to Date" section and Appendix A for a detailed discussion.

Table 1. Species Considered in Detail for the TRRP Project.

Common Name	Scientific Name	Status*
California condor	*Gymnogyps californianus*	FE
*FT= threatened, FE- Endangered, P – Proposed, C – Candidate		

II. CONSULTATION TO DATE

A listing of proposed, endangered, and threatened species that may occur in the vicinity of the TRRP Project was received on July 26, 2013 from the USFWS from their website at the commencement of the project (http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-overview.htm). This list was reviewed and it fulfills the requirement to provide a current species list, pursuant to Section 7.c. of the ESA, as amended.

The California condor was listed as endangered on March 11, 1967 (32 Federal Register (FR) 4001), with critical habitats designated on September 24, 1976 (41 FR 187) within Tulare, Kern, Los Angeles, Ventura, Santa Barbara, and San Luis Obispo Counties. Two areas of critical habitat are adjacent to the western edge of Western Divide District boundary. These include the *Tulare Country Rangelands* (Critical Habitat #9, USDI 1984) an important foraging zone that overlaps with approximately 480 acres of the District, and the *Blue Ridge Condor Area* a popular historic roost location (Critical Habitat #6, USDI 1984), located at the northwest corner of the District (Map 1). Neither of these designated critical habitats overlap with any portion of the TRRP Project area.

Since the listing of the California condor, the Forest has conducted both formal and informal consultations with the USFWS on a variety of projects. Prior informal and formal consultation since 2009 was conducted in September 2009 for the Sequoia National Forest Motorized Travel Management EIS (81420-2009-I-1148). Informal consultation was initiated with members of the USFWS California Condor Recovery Team. An office meeting on May 7, 2010 and field review of the TRRP Project occurred at that time.

III. CURRENT MANAGEMENT DIRECTION

Forest Plan Direction

Direction regarding sensitive species management and viability is provided in the Forest Service Manual (FSM 2672.1 & 2672), the National Forest Management Act (NFMA), the Code of Federal Regulations (CFR 219.19), and the Sequoia National Forest Land and Resource Management Plan (LRMP) (USDA 1988), as amended by the 2012 Giant Sequoia National Monument Management Plan (USDA 2012). Forest Service manual direction ensures through the Biological Evaluation/Assessment (BE/BA) process that all federal threatened, endangered, proposed, and sensitive species receive full consideration in relation to proposed activities.

The Tule River Reservation Protection Project is within Giant Sequoia National Monument and is subject to the 2012 Giant Sequoia National Monument Management Plan (Monument Plan). The Monument Plan provides strategic direction at the broad programmatic level, and it replaces, in its entirety, all previous management direction for the Monument, including the direction in the 1988 Sequoia National Forest LRMP for this part of Sequoia National Forest. The Monument Plan establishes various land allocations/management areas as Static, Overlapping, or Dynamic, and establishes standards and guidelines for each allocation based on a hierarchy basis. Where allocations overlap, the area with the most restrictive direction is given priority, as stipulated by the Monument Plan. Applicable allocations within the TRRP Project vicinity in order of priority include spotted owl Protected Activity Centers (PACs) and Home Range Core Areas (HRCAs), goshawk PACs, a fisher den buffer, Wildland Urban Intermix (WUI) defense and threat zones, the Tribal Fuels Emphasis Treatment Area (TFETA), and Giant Sequoia Grove.

The Monument Plan strategy for the California condor habitat is to follow the most current U.S. Departmetn of the Interior (USDI) Fish and Wildlife Service California Condor Recover Plan,
The current California Condor Recovery Plan (USDI 1996) instructs forests to continue to implement enforcement of guidelines that protect known suitable roosting sites on public lands. As such, the forest has

identified a series of roost areas where heavier historic use by condors occurred. These include the Blue Ridge Condor Area (Critical Habitat #6, USDI 1996) previously discussed, located approximately eight air miles north of the TRRP Project. While the Blue Ridge Condor Area (BRCA) does not contain portions of Sequoia National Forest, adjacent public lands outside BRCA are considered to be integral to its management. These include lands administered by the Forest along the northeast boundary of the BRCA in T.19 S., R. 29 E., Sections 2 – 4, 10-11, and 35. None of these lands or the historic roost locations noted within the Blue Ridge Condor Area lie directly adjacent to, or within, the TRRP Project area. The remaining condor roost sites identified in the Forest Plan are located a minimum of fourteen air miles south of the TRRP Project on the west slope of the Greenhorn Mountains (Lion Ridge and Basket Peak) and further to the south in the Breckenridge Mountains.

Monument Plan Key Wildlife Standards & Guidelines[1]:

- Manage snag levels for ecological restoration. Within green forests, design projects to provide a sustainable population of medium-and large-diameter snags.

Endangered Species Act (ESA)

The ESA of 1973 (16 USC 1531 et seq.) requires that any action authorized by a federal agency not be likely to jeopardize the continued existence of T&E species, or result in the destruction or adverse modification of habitat of such species that is determined to be critical. Section 7 of the ESA, as amended, requires that the responsible federal agency consult with the USFWS and the National Marine Fisheries Service concerning T&E species under their jurisdiction. It is Forest Service policy to analyze impacts to T&E species to ensure management activities are not be likely to jeopardize the continued existence of a T&E species, or result in the destruction or adverse modification of habitat of such species that is determined to be critical.

IV. DESCRIPTION OF THE PROPOSED PROJECT

The purpose of the TRRP Project is to respond to the Tule River Tribal Council's request for action under the 2004 Tribal Forest Protection Act, and to protect, restore, and maintain the Black Mountain Giant Sequoia Grove, the surrounding forest, and the other objects of interest in the project area, by conducting fuels management activities in the Tribal Fuels Emphasis Treatment Area (TFETA) defined in the Giant Sequoia National Monument Management Plan (Monument Plan). The Forest Service developed three alternatives. These include the No Action and two additional Action Alternatives, in response to issues raised by the public. The alternatives are described in detail in the Tule River Reservation Protection Project Draft Environmental Impact Statement (USDA Forest Service 2013) and are summarized below.

Alternative 1
Under Alternative 1 (No Action) no fuels treatment work would be implemented to reduce surface and ladder fuels and the risk of wildland fire spreading from NFS lands onto the Tule River Indian Reservation. The purpose and need for the TRRP Project would not be achieved: the Tule River Tribal Council's request for action under the 2004 Tribal Forest Protection Act would not be granted, and no fuel treatments would be conducted to protect, restore, and maintain the Black Mountain Giant Sequoia Grove, the surrounding forest, and the other objects of interest in the project area. Existing permitted uses under the Monument Plan would continue to guide management of the project area.

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[1] Key wildlife standards and guideline listed are those applicable to the actions proposed for the TRRP Project, and do not necessarily encompass all wildlife S&Gs provided in the Monument Plan.

Alternative 2

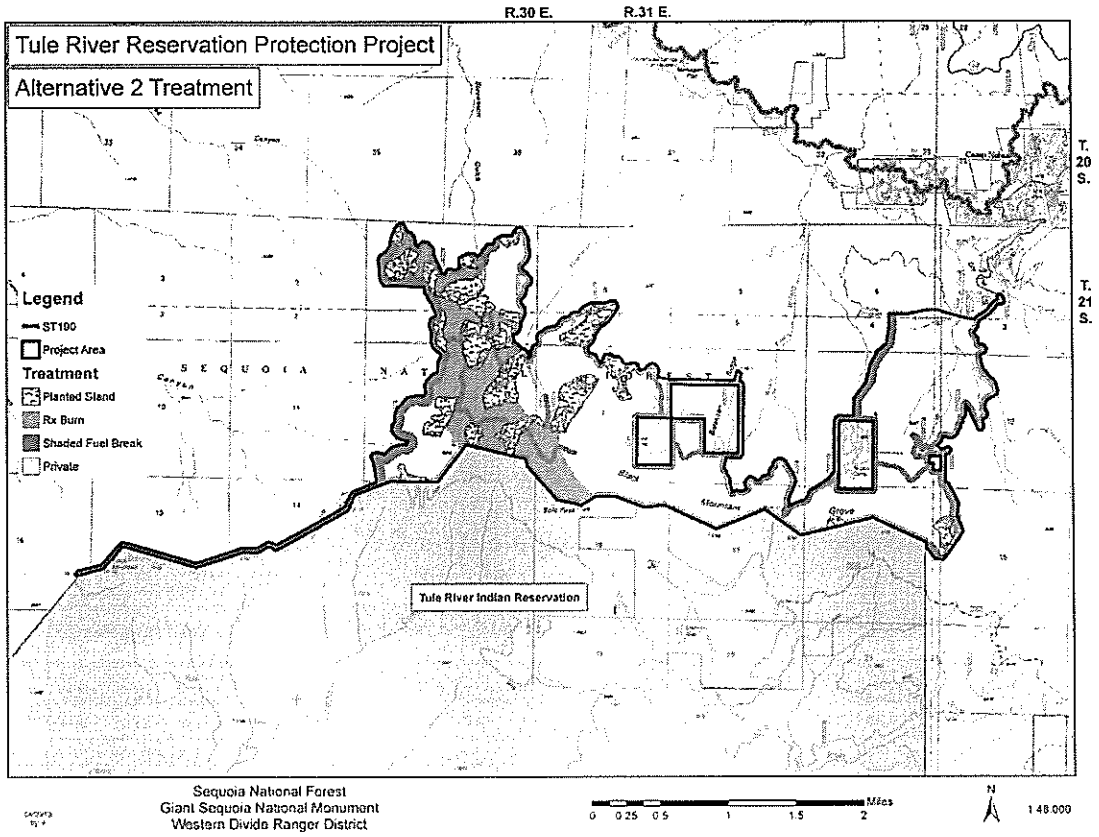
The proposed action is to reduce surface and ladder fuels on approximately 1,400 acres using a combination of activities (Map 2). Treatments include hand constructing shaded fuel breaks along ridgelines, private land boundaries and road edges; hand treatments to vary spacing and reduce fuels in planted stands; and prescribed burning in these and other areas using jackpot burning, pile burning, and understory burning techniques. The diameter limit for all the fuels reduction activities in the project area would be 12 inches dbh (diameter at breast height).

There are three treatment areas proposed in Alternative 2, and each has a specific set of prescriptions as described in further detail in the following paragraphs:

- Planted Stands
- Shaded Fuel Breaks
- Understory Burning

Some of the down woody material from fuels reduction may be removed as firewood under the terms and conditions of fuelwood permits. Firewood cutting and gathering is prohibited inside giant sequoia grove administrative boundaries, unless an exception is granted based on specific site conditions or circumstances (Monument Plan, p. 39), but is a suitable activity in the TFETA (Monument Plan, p. 42). The project area is within the old forest emphasis land allocation of Giant Sequoia National Monument. Snags are an important component of old forest habitat in this land allocation. Therefore, where snags over 15 inches dbh are available, a minimum of four snags per acre would be retained averaged across 10 acre blocks.

Map 2: Alternative 2 Treatment Area Map.



Planted Stands:

The TRRP project area contains approximately 400 acres of planted stands. Alternative 2 proposes to reduce fuels while creating more heterogeneity and resiliency by using hand treatments to vary spacing both in the direction of travel (i.e., upslope/downslope) and wherever possible, in alternate directions (i.e., side slope). Specific treatments include:

- Vary spacing to favor the retention of the largest trees, according to the species priority described below (in descending order of importance):
  1) Retain all trees greater than 12 inches diameter breast height (dbh);
  2) Giant sequoia;
  3) Black oak;
  4) Pine
  5) An average of five hardwoods per acre.
- Felling trees up to 12 inches dbh following the priority list.
- Where the largest trees are less than eight inches diameter at breast height (dbh), thin trees to 100 trees per acre (average tree spacing of 20 feet).
- Where the largest trees are eight inches and larger, thin trees to 70 trees per acre (average tree spacing of 25 feet).
- Removing sufficient amount of surface fuels to produce an average flame length of four feet or less by piling and burning existing dead and down material between one and eight inches dbh.
- Limbing leave trees where necessary to reduce fire risk..
- After previous treatments, jackpot burn and pile burn to reduce fuel loading.
- Retaining snags greater than 15 inches dbh unless they pose an imminent threat to personnel implementing treatments.

Shaded Fuel Breaks:

Alternative 2 would use hand treatments to establish several fuel breaks on approximately 730 acres of the project area. Based on terrain and vegetation features, these fuel breaks would vary from 150 to 400 feet in width:

1) Construct a 150 foot wide shaded fuel break along the northern boundary of the Reservation on and to the east of Black Mountain.
2) Construct a 200 foot wide shaded fuel break (100 feet on both sides of the road) along Forest Roads (FR) 21S94, 21S12 (from 21S94 to 21S25), 21S12b, 21S25, 21S25A, 21S25B, 21S25C, 21S25D, and 21S58.
3) Construct a 200 foot wide shaded fuel break on National Forest land adjacent to private property.
4) Construct a 300 foot wide shaded fuel break along the eastern boundary of the project area.
5) Construct a 400 foot wide shaded fuel break along the western boundary of the project area.

Construction of the shaded fuel breaks would include one or more of the following treatments:

- Fell shade-tolerant tree species (incense cedar, white fir and red fir) and retain giant sequoia, oak, and pine trees.
- Remove sufficient surface fuels to produce an average flame length of four feet or less after project completion, by piling existing down woody material between one and eight inches in diameter.
- Remove sufficient ladder fuels, to meet an average canopy base height of 20 feet, by:
  a. Cutting and piling brush,
  b. Felling and piling trees up to 12 inches dbh to achieve an average of no more than 70 trees per acre (average tree spacing of 25 feet).
- Where shaded fuel break and spotted owl protected activity centers overlap (approximately 130 acres), cut and pile brush and trees (less than six inches dbh).
- Retain snags greater than 15 inches dbh unless they pose an imminent threat to personnel.

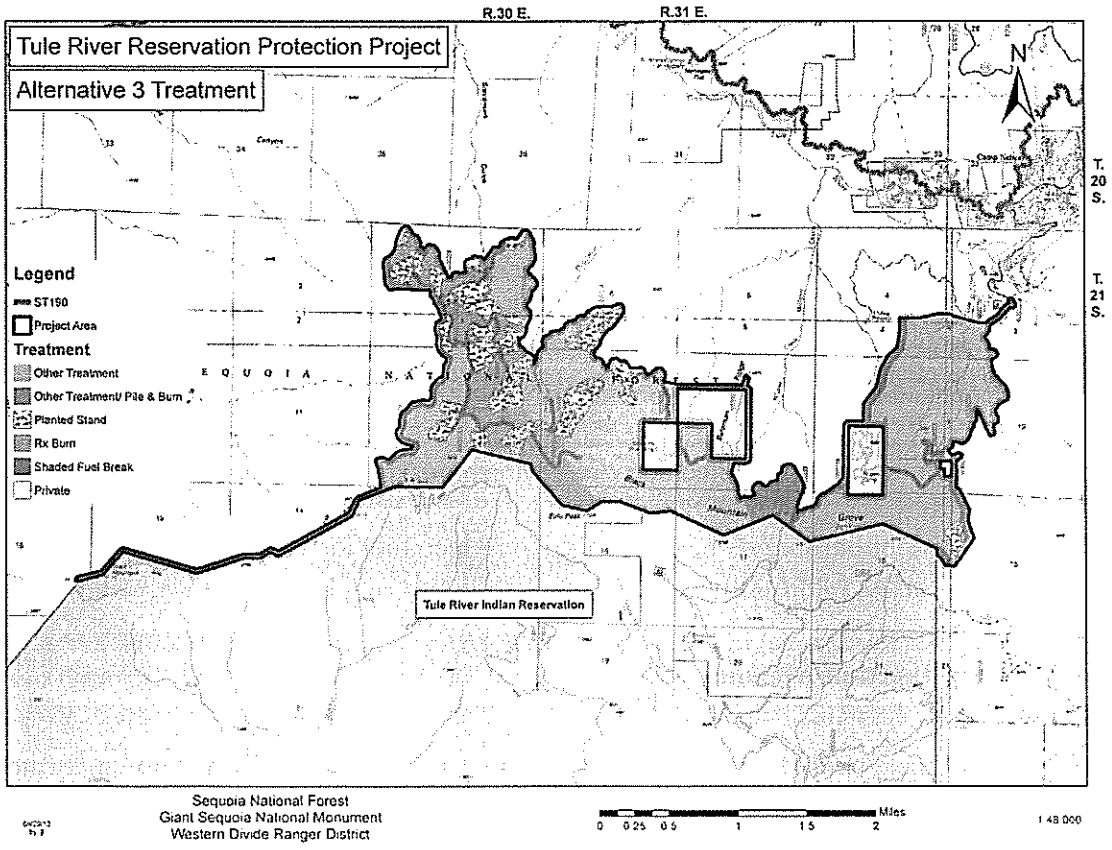
- After treatments above, use jackpot burning and pile burning to reduce fuel loading.

Understory Burn:
Understory burning is proposed on approximately 280 acres between the planted stands and some of the shaded fuel breaks. This prescribed burning would reduce surface fuels to retain an average of 15 tons per acre. In the burn area, hand crews would construct fire lines and prune or fell incidental small trees, generally less than six inches dbh, prior to burning. Snags greater than 15 inches dbh would be retained, unless they pose an imminent threat to personnel implementing during implementation.

Alternative 3
Alternative 3 was developed to address the issues of high snag density; high woody debris concentrations along Forest Service Roads 21S94 and 21S12; and the need to reduce the risk of fire spreading from Camp Nelson, Rogers Camp, Simmons Post Camp, Mountain Aire, and Bateman Ridge private lands, especially in the upper end of Wilson Creek. This alternative proposes to reduce surface and ladder fuels on approximately 2,830 acres in the project area (Map 3). Alternative 3 would treat the same areas as Alternative 2, as well as a fourth treatment area termed "Other Fuels Treatment" to further reduce fuels:

- Planted Stands
- Shaded Fuel Breaks
- Understory Burning
- Other Fuel Treatments

Map 3: Alternative 3 Treatment Area Map.



The treatments proposed for the planted stands and the understory burning would be the same as those described under Alternative 2. However, in Alternative 3, the understory burning would treat 40 fewer acres than those proposed in Alternative 2, covering approximately 240 acres between the planted stands and some of the shaded fuel breaks (see Map 3). The minor differences in the shaded fuelbreak treatments in Alternative 3, and the other fuel treatments proposed in this alternative, are described below.

Shaded Fuel Breaks:

Alternative 3 would use hand treatments to establish several fuel breaks on approximately 690 acres of the project area. Some of the fuel breaks would be narrower than those proposed in Alternative 2, because of the added fuel treatment areas proposed in Alternative 3. Based on terrain and vegetation features, these fuel breaks would vary from 150 to 300 feet in width:

1) Construct a 150 foot wide shaded fuel break along the northern boundary of the Reservation and to the east of Black Mountain.
2) Construct a 200 foot wide shaded fuel break (100 feet on both sides of the road) along FRs 21S94, 21S12 (from 21S94 to 21S25), 21S12B, 21S25, 21S25A, 21S25B, 21S25C, 21S25D, and 21S58.
3) Construct a 200 foot wide shaded fuel break on National Forest land adjacent to private property.
4) Construct a 300 foot wide shaded fuel break along the eastern and northwestern boundaries of the project area.

Construction of the shaded fuel breaks in Alternative 3 would include the same set of treatments proposed in Alternative 2.

Other Fuels Treatments:

In addition to the 240 acres of underburning between planted stands and the shaded fuel breaks, Alternative 3 proposes approximately 1,500 more acres of fuels reduction treatments than Alternative 2. These treatments would focus on reducing surface and ladder fuels in more of the areas between the planted stands and the shaded fuel breaks, and in the eastern portio of the project area using the following criteria:

- Remove sufficient surface fuels to produce an average flame length of less than six feet after project completion, by hand piling existing down woody material up to 8 inches in diameter.
- Remove sufficient ladder fuels, to meet an average canopy base height of 20 feet, by:
  1) Cutting and piling brush
  2) Felling and piling trees up to 12 inches dbh to achieve an average of no more than 70 trees per acre (average tree spacing of 25 feet).
- Retain snags greater than 15 inches dbh unless they pose an imminent threat to personnel implementing treatments.
- Where these fuel treatments and spotted owl protected activity centers overlap (305 acres), cut and pile brush and trees (less than inches dbh).
- After the felling and piling, use jackpot burning and pile burning to reduce fuel loading. Where these fuel treatments and fisher den buffer overlap, (approximately 45 acres), only pile and burn methods would be used.

Mitigation Measures Common to All Action Alternatives:

- Notify the district wildlife biologist should a nest or den site of any TES species become known during any phase of project lay out or implementation.
- Condor activity during implementation phases of the project will be monitored. Should satellite data suggest presence of condors on the Forest that would result in occupation of the TRRP

vicinity, a limited operating period will be implemented in consultation with the Condor Recovery Team.

V. EXISTING ENVIRONMENT

The TRRP Project is located on the north facing slope of Black Mountain Giant Sequoia Grove and a portion of Slate Mountain Ridge. The entire Black Mountain Giant Sequoia Grove encompasses an estimated 3,540 acres. This includes approximately 2,370 acres found on National Forest System Lands and an estimated 1,170 acres found on Tribal Lands. The TRRP Project area encompasses an estimated 2,838 acres which include portions of Black Mountain Giant Sequoia Grove. The project area ranges in elevations approximately from 4,800 to 7,300 feet, with topography denoted by moderately steep vegetated canyons and ridgelines, interspersed with occasional flats or rolls.

The TRRP Project area encompasses a variety of vegetative communities as identified under the California Wildlife Habitat Relationship System (CWHR) (CDFG 2005). Sierran mixed conifer (SMC) is the dominant vegetation type (83%) found in the TRRP Project area. CWHR system classification of SMC vegetation type includes giant sequoias as a component. Tree species composition includes black oak, incense cedar and ponderosa pine at lower elevations, with incense cedar, sugar pine, white fir, and giant sequoia at mid to high elevations. The distribution of scattered giant sequoia trees is irregular and clumpy, typical of most groves. Understory vegetation in Sierra mixed conifer type include black oak, Pacific dogwood, Canyon live oak, beaked hazelnut, bush chinquapin, whitethorn, currant, snow berry, grasses and forbs (Jump 2004). Small inclusions of Montane Hardwood-conifer (9%), montane hardwood (8%), and brush types (<1%) occur at lower elevations and on side slopes with a northwest exposure. See Table 2 for complete listing of CWHR habitat types and acres.

Table 2. California Wildlife Habitat Relationship (CWHR) types and acres within TRRP Project Area.

CWHR Vegetation Type	Acres	Percent of project area
Sierran Mixed Conifer	2,344	83 %
Montane Hardwood-Conifer	244	9 %
Montane Hardwood	236	8 %
Barren, Montane and Mixed Chaparral	14	<1 %
Total Acreage	2,838*	100 %

* - total acreage values presented are rounded; actual acreages for any vegetation type presented may vary slightly based on rounding.

Aspects of forest stand structure important to condor include use of large trees and snags that could be used incidentally as they travel between prominent historic roost locations or to access down slope foraging grounds. Vegetation and forest structure classes (size and density) within the TRRP Project Area were updated to reflect current condition using the CWHR classification system. Data were evaluated from Forest spatial, ecological, and vegetation layers created from remote-sensing imagery obtained at various points in time. Data were then verified using photo-imagery, on-the-ground measurements (common stand exams 2004 and 2008), and tracking of vegetation-changing actions or events over time. Table 3 displays the most recent CWHR vegetation types and acres within the TRRP Project Area.

Table 3. Acres of CWHR Vegetation Types, within the TRRP Project Area.

Habitat Type	Acres	Percent of Analysis Area
Early-seral (0-11.9 dbh[1]) shrub, young Sierran mixed conifer (SMC), montane hardwood-conifer (MHC), and montane hardwood (MHW).	530	19%
Mid-seral (12 -23.9 dbh) SMC, MHC, MHW	916	32%
Late-seral (24 & greater dbh) SMC, MHC, MHW	1392	49.0
Total	2838	100

1 Diameter at Breast Height.

Snags are an essential component of forests that are often used by wildlife as rest, nest or den sites. Snag development is caused through a variety of mortality agents (fire, disease, and drought) which target different tree species and age classes; thus resulting in a mix of snag types across the landscape. Bull et al. 1997 noted that snags typically occur in clumps on the landscape due to the often-localized effect of mortality agents. Data available from old-growth stand inventories conducted in the Sierra Nevada and giant sequoia groves within Sequoia National Forest provide an average snag and down log density for mature stands (Table 4).

Table 4. Snag and down log occurrence taken from available data from old-growth mixed conifer forests and giant sequoia groves located on Sequoia National Forest.

Publication/Reference	Mean Number of Snags	Mean Number of Down Logs
Beardsley et al. 1999 Old Growth Forest in the Sierra Nevada (Mixed Conifer)	12/acre (> 10" dbh.) 4/acre (>20" dbh)	14/acre (>6" dbh.) 6/acre (>20" dbh)
USDA 2013, Giant Sequoia Groves and Inventory (Appendix I)	7.0/acre (>10" dbh) (range 3-12 snags/acre)	28/acre (>10" dbh)

The figures displayed in Table 4 suggests an average range of variability of 3 to 12 snags per acre, with snags greater than 20" dbh typically ranging between 2.0 to 4.0 snags per acre. These values were compared with stand exam data collected in forest types found throughout the TRRP project landscape2. There is an estimated 6.3 snags per acre (> 15" dbh) recorded, with snags 24" dbh and greater estimated at 3.2 snags per acre. Because snags are formed through a variety of mortality agents, it is recognized that some acres may deviate, either lower or higher, from these estimates.

Species and Habitat Account

Historic and Current Distribtion

Condor biology and habitat information were collected from the following sources: California Condor Recovery Plans (USDI 1996, USDI 1984), Condor Nest Site Management Plan (USDA 1986), Blue Ridge Habitat Management Plan (USDI 1985), Forest wildlife files, informal and formal consultations with the USFWS, and

information summarized from the Monument Plan and the Sierra Nevada Forest Plan Amendment FEIS incorporated by reference for this analysis (USDA 2012, USDA 2001).

While historically the California condor once had a relatively wide distribution across the United States, their current distribution in California is limited primarily to a "U" shaped zone extending from the coastal mountains at Santa Clara and San Mateo Counties south to Ventura County, east to the western slope of the Tehachapi Mountains, and north through the west slope of the Sierra Nevada Mountains to Fresno County (Figure 1) (USDI 1984 and 1996).

Condors are being reintroduced into the mountains of southern California north of the Los Angeles Basin, in the Big Sur vicinity of central California Coast, and near the Grand Canyon in Arizona. Due to these efforts in California, condors have expanded their range starting in the north in the Santa Lucia Mountains, down into the Sierra Madre Mountains and down south and east across the San Gabriel Mountains into the San Bernardino Mountains. Members from the Baja California population have been seen foraying into the greater San Diego area into the Cleveland National Forest.

The historic distribution of the condor on Sequoia National Forest included most west slope forests overlooking foothill regions adjacent to the San Joaquin Valley, from the Breckenridge Mountains north through the Hume Lake District. Important condor use areas previously documented include portions of the Breckenridge Mountains south of the Kern River, portions of the west slope of the Greenhorn Mountains (Starvation Grove, Lion Ridge and Basket Pass) and the Blue Ridge Condor Area located outside the north-west corner of the Western Divide Ranger District. These traditional high use areas were historically occupied by the condor due to their close proximity to down slope foraging foothill habitats located west of the Forest boundary (Kern County Rangelands Critical Habitat #8, Tulare County Rangelands Critical Habitat #9).

As of June 30, 2013, the total California condor population was 431 individuals of varying ages. There are 200 in the captive population and 231 in the wild (including 71 in Arizona, 130 in California, and 30 in Baja California) (USDI 2013). The minimum criterion for reclassification to threatened status is the maintenance of at least two non-captive populations and one captive population. These populations: (1) must each number at least 150 individuals, (2) must each contain at least 15 breeding pairs, and (3) be reproductively self-sustaining and have a positive rate of population growth. In addition, the non-captive populations: (4) must be spatially disjunct and non-interacting, and (5) must contain individuals descended from each of the 14 founders (USDI 1996).

Specific causes contributing to the decline of the condor over the last several decades have included incidental shootings, egg collecting, collisions with power lines or other obstacles, and various forms of poisoning (USDI 1996, AOU 2008). Collisions and electrocutions with electrical distribution structures were a significant mortality factor for the reintroduced population of condors during the first several years of release efforts (Snyder and Snyder, 2000), with seven dying from December 1988 to June 1999 (Meretsky et al., 2000). This threat was thought to have largely resulted from the tendency of young birds to associate with human structures (Snyder and Snyder, 2000). The potential for this hazard has been reduced by releases of birds that have been trained to avoid perching on mock utility poles fitted with electroshock mechanisms (Snyder and Snyder, 2005). Lead poisoning has also been a significant mortality factor affecting the species, with at least 14 deaths reported since 1992. New state legislation (AB 821) recently banned the use of lead ammunition from the occupied range of the California condor. It is anticipated that this measure will dramatically decrease the potential for incidental lead poisoning to occur.

Habitat Preferences and Biology

Nest Habitats - Important habitat features for this species include a need for nest and roost sites. The present nesting range for the condor in California is quite limited, with over 90% of the nest locations occurring within a 56-mile area encompassing portions of Los Padres and Angeles National Forests. Condors predominately nest on various types of rock escarpments such as cliffs, caves, overhanging ledges, crevices, and potholes, which are relatively isolated and surrounded by brush (Snyder and Schmitt, 2002, USDI 1984). There are a few instances recorded where condors have nested in large redwoods. For example, in the vicinity of the Sequoia National Forest, there have been two historic nests documented in a large cavity of a giant sequoia tree (*Sequoiadendron giganteum*). One occurred on the Forest in Starvation Grove in 1984 approximately 11 miles to the south of the TRRP Project Area, and the other was reported within the southern portion of the Tule River Indian Reservation in the 1940s. There has also been a recent nesting attempt in a large cavity of a coastal redwood (*Sequoia sempervirens*) in Monterey County. Live trees selected for nesting purposes have all included the use of very large cavities, and are believed to be limited to those in large redwoods. Other conifer tree species cannot reach a diameter that would support a cavity of sufficient size for the condor. Dimensions of a previous nest cavity located in a giant sequoia tree for example were 5 feet high, 3 feet wide, and 2.5 feet deep.

Since the re-introduction program began to release condors back into the wild in 1992, no nesting attempts have occurred on Sequoia National Forest. However, as juvenile condors come into breeding status and continue to explore open habitat, it is conceivable that condors could attempt to nest on the Forest. Courtship, nest selection, and egg-laying typically occur from October through May. The egg is incubated by both parents and hatches approximately 59 days later. Chicks take their first flight six to seven months later and are fully independent the following year. Based on informal discussions with members of the California condor recovery team, condors at this time have not initiated behavior indicative of territory establishment for nesting purposes.

The California Condor Recovery Plan (USDI 1984) discusses that the effects of human disturbance rarely cause condors to abandon their nest, in the sense that they will fly away and not return, but may influence how condors select nest locations (ibid). Sibley (1969), for example, found a correlation between the location of recently used condor nest sites and the location and magnitude of human activity. The greater the disturbances, either in frequency or noise level, the less likely condors were to nest nearby (USDI 1984).

Roosting Habitat and Use - A series of historic roost areas have been identified on Sequoia National Forest from previous condor occupation and use. These areas are unique in their ability to meet condor needs (proper topography, air current, etc) and, for that reason, continue to be used as condors have been returning to the Forest. These include the Blue Ridge Condor Area (Critical Habitat #6, USDI 1996), located approximately eight air miles to the north of the TRRP Project. The remaining historic roost sites occur in excess of 14 air miles to the south of the TRRP Project on the west slope of the Greenhorn Mountains (Lion Ridge and Basket Peak) and further to the south in the Breckenridge Mountains. Over the last four years, a total of fouteen instances of overnight roosting activity occurred in the Monument. There were two years where no overnight roosting occurred (2010 and 2013), one year with two instances of overnight roosting (2011), and one year with twelve instances of overnight roosting (2012). Of the fourteen total occurrences, eleven of these sites occurred on the west slope of the Greenhorn Mountains south of the Tule River Reservation, with three occurring north of the Reservation. Of this later grouping, two were located near Mountain Home State Forest, and one site occurred in the upper basin of Long Canyon, west and north of the TRRP Project.

Roosts are typically located upslope from low-elevation foraging zones and most commonly utilize structures such as a large dead tree or emergent large live conifer. Koford (1953) noted that roost trees are often situated above cliffs or on upper two-thirds of steep slopes where there is a long unobstructed space for downhill flight.

Roost sites do not occur on the very tops of ridges where there is little protection from the wind. Condors often remain at roost locations until mid-morning and return in late afternoon.

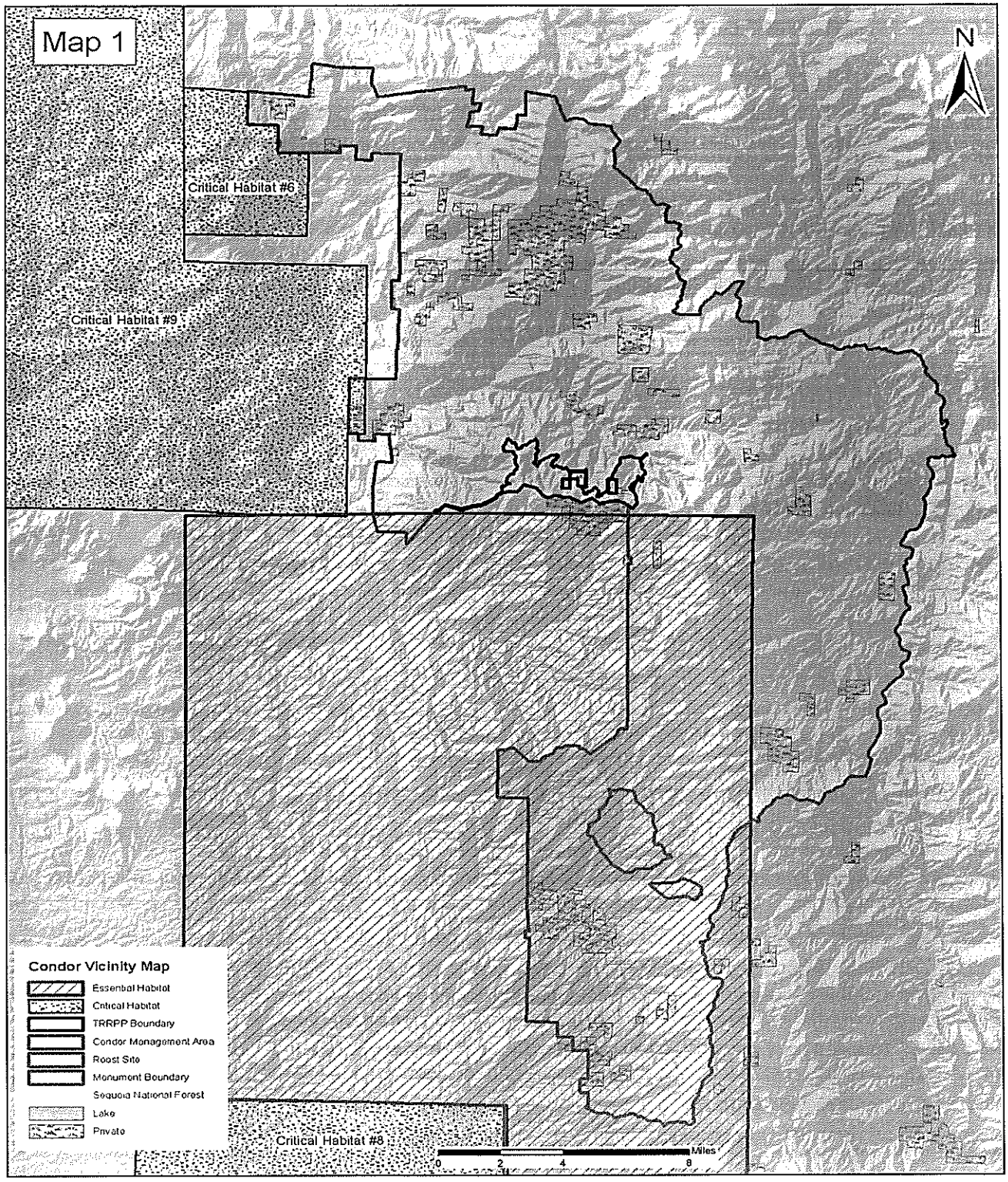
Koford (1953) completed one of the most comprehensive field studies on California condor biology and behavior. His work studied and documented the native population when it contained much higher numbers than today, and represented countless hours of observation. In regards to roost selection and its sensitivity to road or trail disturbance, it has been suggested that condors may tolerate more disturbance at a roost than a nest (USDI 1996). The response of condors to disturbance was found to vary by condor individual (age, numbers at roost), the type of disturbance (motion vs. noise), the time of disturbance, the accessibility or closeness of the disturbance to the roost site, and the land forms surrounding roost sites (USDI 1996 and Koford 1953). Koford (1953) reported several instances where a single roosting condor was approached by a human within 100 feet before flushing but, when groups of condors roosted together, flushing occurred when humans approached within 200 yards of their location. He also noted that when adults and immature birds roosted together, immature birds normally flushed less readily than adults, and that sounds, more than motion, were more likely to disturb roosting birds. Loud and continued noise disturbances may negatively influence normal use of a site for a period of time. Condors were more likely to remain at roosts despite disturbance when the air was poor for flight.

Previous informal consultation regarding management of forested California condor roosting habitat is to provide large trees with emergent, sturdy branches for perching; or snags that extend above the tree canopy. It was considered desirable to maintain 2-3 suitable trees or snags per acre, throughout time.

The Condor Recovery Plan also discusses the Glenville-Woody essential condor habitat (See Map 1 next section). This area consists of a broad zone that encompasses the western slope of the Greenhorn Mountains, extending from the north side of the lower Kern River Canyon, north to the Tule River Indian Reservation in Tulare County, west to the eastern side of Lake Success, and south to Chalk Cliff in Kern County (USDI 1984). This zone overlaps with large expanses of privately held foothill rangeland and federal lands administered by Sequoia National Forest. Essential habitat has no legal status. Its designation was intended to identify areas that may be used to supplement critical habitat at some future date. As such it is to be utilized for informational purposes, and encompasses a series of key condor use spots previously discussed (Lion Ridge roost site, Basket Peak roost area [located further south off the Monument], and the Starvation Grove Condor Management Area). An estimated 8,000 acres of essential habitat overlaps with the Monument; The TRRP Project area does not encompass any essential habitat. Primary use periods for the roost areas historically occurred between late fall and spring (Personal Communication, J.Grantham 2008), although some summer visitations to the Forest has recently been noted in both June and July.

Foraging Habitats and Diet - The principal foraging habitat regions near the Sierra Nevada include west slope grassland and oak-savannah habitats at lower elevations within the foothill region directly adjacent to the southern San Joaquin Valley. Designated Critical Habitat for the condor encompasses primarily private held range lands in Kern and Tulare Counties. This includes the foothill rangelands around the small community of Glennville, California (Critical Habitat #8), Critical Habitat #9 which extends from Frazier Valley north across Yokohl Valley to approximately Lemon Cove and east to Sequoia National Forest boundary, and the Blue Ridge Condor Management Area (Critical Habitat #6) (Map 1).

Map 1. Condor Critical Habitat, Essential Habitat, and other Important Historic Use Areas in their Proximity to the TRRP Project



In terms of diet, California condors are opportunistic scavengers feeding mainly on carcasses of large dead animals such as livestock (cows, sheep, horses) and mule deer. Typical foraging behavior includes long-distance reconnaissance flights, lengthy circling flights over a carcass, and hours of waiting at a roost or on the ground near a carcass. Some seasonal diet shifts have been noted based on food availability. For example,

condors tended to move to the Tehachapi area during the hunting season where they showed a preference for deer gut-piles or un-retrieved deer carcasses over calf carcasses (USDI 1996). Condors were also noted to frequent the San Emigdio area of the San Joaquin Valley during the calving season.

In photographic and telemetric tracking of California condors from 1982 to 1987, it was found that an individual could fly more than 200 km and transverse an entire range of the species during a day (Meretsky and Snyder, 1992; Polite, 2005). Birds were variably social in movements. Pair members tended to stay together during long-distance travels. Immature and unpaired birds sometimes traveled with other condors but often moved singly (Meretsky and Snyder, 1992).

Risk Factors – Factors influencing condor decline, or which have resulted in disturbance, are fairly well understood. Contributing factors have included incidental shootings, egg collecting, collisions with power lines or other obstacles, and various forms of poisoning (USDI 1996, AOU 2008). Many of these factors have been greatly reduced through behavior modification training and new State legislation banning use of lead ammunition. Condor selection of habitats can be modified by increased disturbance levels. However with current satellite monitoring technology, nesting territories and consistent roost areas can be quickly identified and protected if needed from noise and other forms of human disturbance.

VI. EFFECTS OF THE PROJECT ALTERNATIVES

For Federally listed species under the ESA, direct effects in this document are those effects which would lead to the "taking" of an individual of those species analyzed in this document and as defined in Section 9 and/or Section 10 of the Endangered Species Act of 1974, as amended (Act). Section 9 of the Act prohibits the "take" (i.e. to harass, harm, pursue, hunt, wound, kill, etc.) of listed species of fish, wildlife, and plants without special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or shelter. "Harass" is further defined as actions that create the likelihood of injury to listed species to an extent as significantly disrupt normal behavior patterns which include, but not limited to, breeding, feeding, and shelter.

Indirect effects are those that are caused by the proposed action later in time, but still are reasonably certain to occur (50 CFR 402.02).

Cumulative effects are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02).

Analysis Indicators

Analysis Indicators are presented in the environmental consequences section to compare and contrast the effects of the project alternatives. The primary indicators selected were based on a thorough review of the literature and informal discussion with the USFWS Condor Recovery Team on the interaction between condors and fuel reduction projects.

Indicator 1: Disturbance related impacts from project actions

Koford (1953) reported that increased noise levels and motion may negatively influence selection of roost sites or normal use of existing roost sites for a period of time. Fuel reduction activities such as chainsaw noise and human presence have the potential to flush birds from roost sites if present.

Indicator 2: Changes in the availability and distribution of large snag and live trees (≥24 inches diameter):

Retaining a series of large roosting structures (snags or large live trees) across the landscape is important for the condor. This concern is heightened in areas up slope of designated critical habitat such as northwest of the TRRP Project. Project activities that substantially alter these structural elements may negatively influence condor habitat.

Indicator 3: Change in the availability of potential nest trees (Giant Sequoias).

Historically large giant sequoia trees with suitable cavities have been utilized by the California condor for nesting purposes. Actions that would result in the loss of large giant sequoia trees that contain cavities of sufficient size suitable for nesting purposes may decrease nesting habitat.

Data Sources

Geographic Information System (GIS) base layers and condor roost areas as identified in the Forest Plan, historical observation data from 1982 through 1987, and satellite telemetry data by season through October of 2002, provided by the USFWS (Ventura Fish and Wildlife Office GIS, August 2003). Global Positioning System (GPS) location data was provided by USFWS from 2009 to present. Mapped areas of Critical and Essential Habitat were taken from the 1984 and 1996 California Condor Recovery Plans.

Alternative 1 – No Action

Indicator 1: Disturbance related impacts from project actions

The No Action Alternative would not treat the TRRP Project area at this time. Therefore the potential for increased disturbance levels as they relate to project actions would not occur. Existing ambient levels of disturbance (i.e. vehicle travel on existing roads, recreation, etc.) would continue. Any incidental or transient use of the area by condors would be expected to continue.

Indicator 2: Changes in the availability and distribution of large snag and live trees:

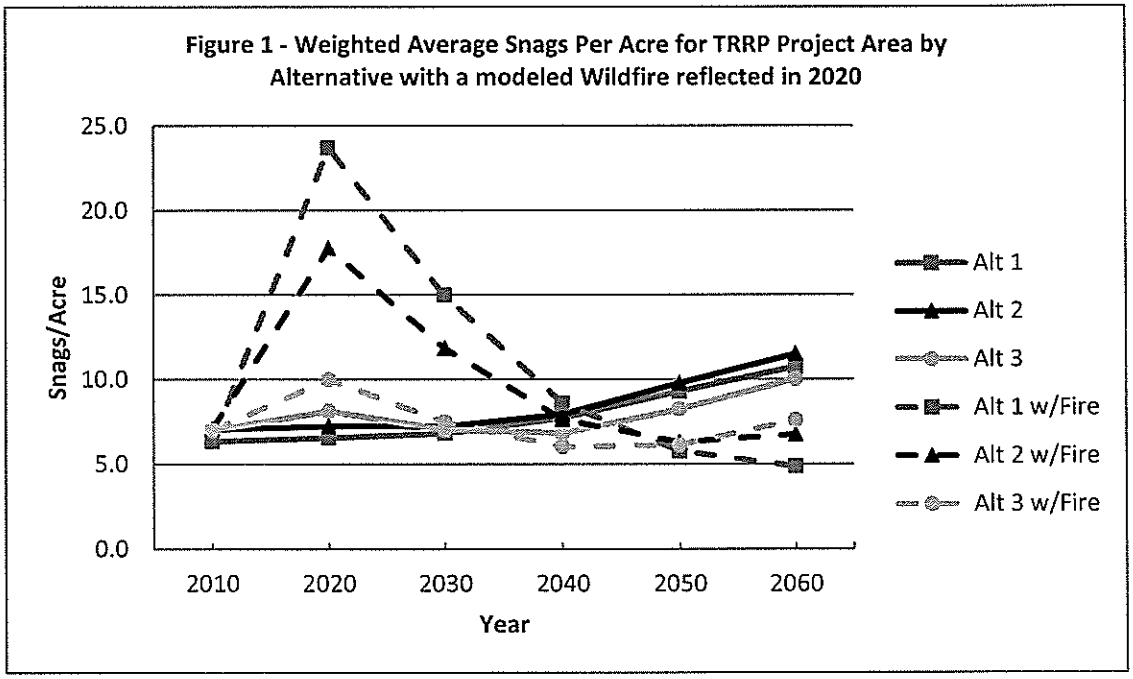
With no fuel reduction work, estimated snag densities and large live tree availability are anticipated to gradually increase over the next 50 years as displayed in Figures 1 and 2. Distribution of these elements would remain throughout the TRRP Project Area. In contrast, implementation of either Action Alternative shows snag and large live tree numbers would also slightly increase or remain near No Action levels over the same modeled cycle.

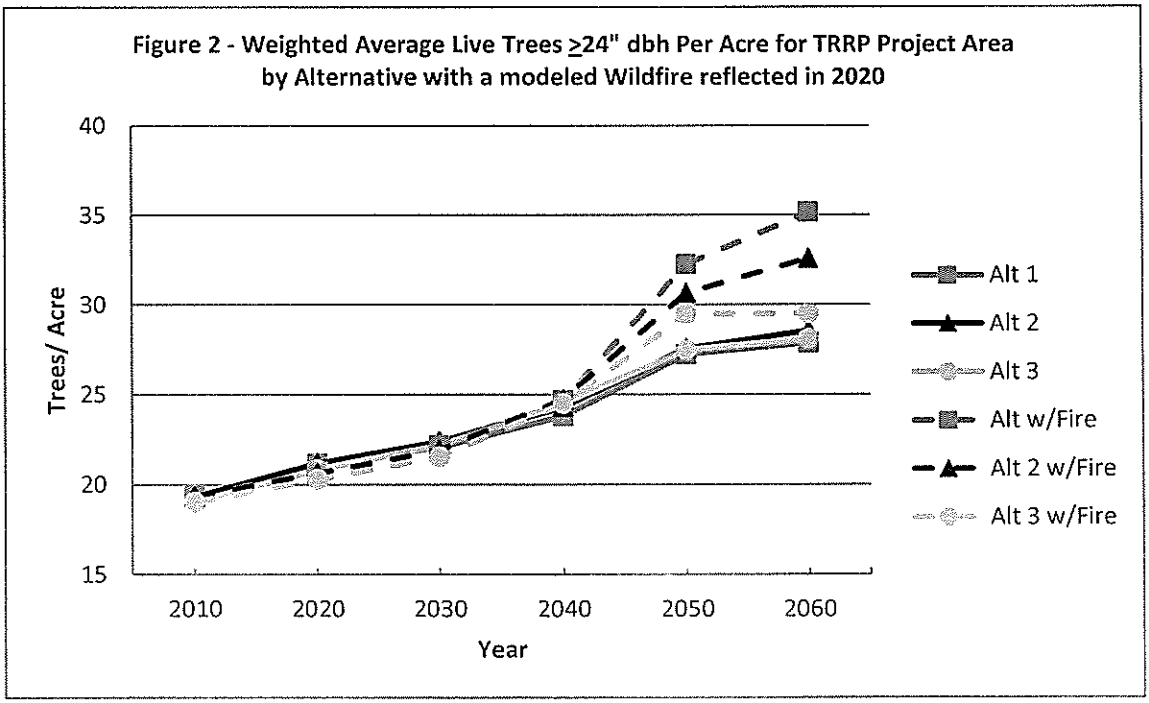
An analysis of a potential wildfire and its effect on important stand elements was conducted for other wildlife species analyzed for the TRRP Project. A modeled wildfire was sequenced to occur in the first decade, with results reflected in 2020. For Action Alternatives 2 and 3, the wildfire was initiated following fuels treatments as proposed. For the No Action Alternative, the wildfire was sequenced at the same time period as that of the Action Alternatives for comparison purposes.

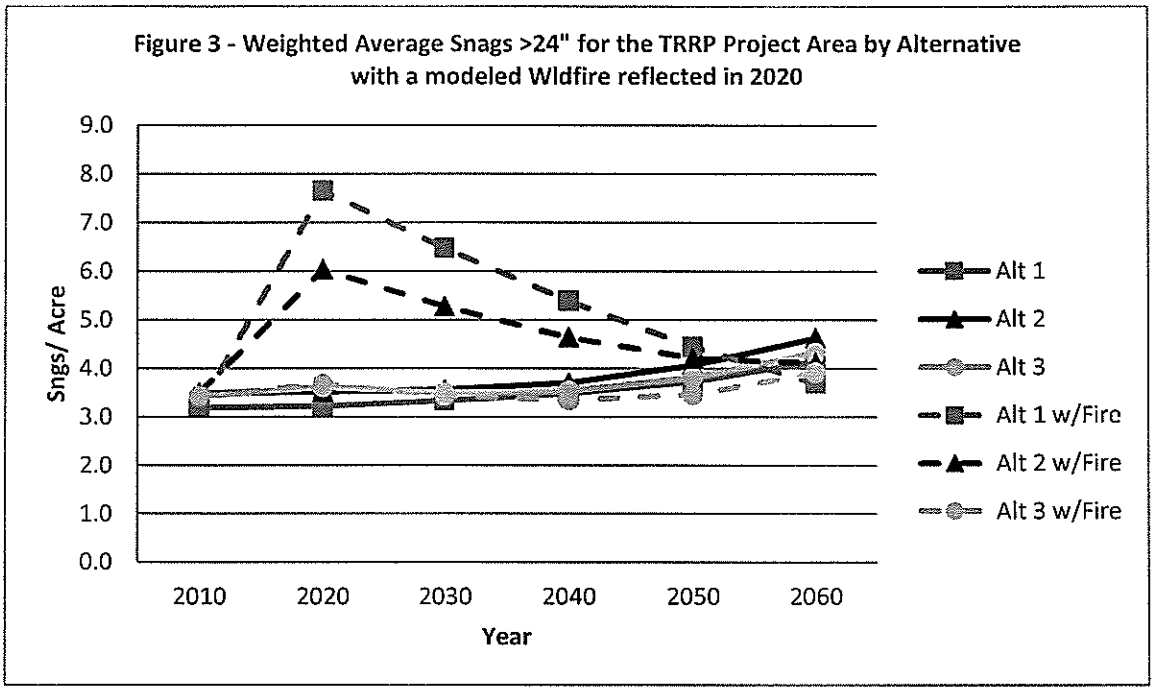
Based on this analysis the trend line displaying the number of snags (≥ 15" dbh) is shown to dramatically increase post fire, with values declining in number rapidly within the first two decades (2020-2040) (Figure 1). Snag densities would eventually be at a lower level than noted under Alternative 1 without wildfire as evidenced by the trend line in 2040. The availability of snags in the largest sizes classes (snags ≥24" dbh) would also increase post wildfire as shown in Figure 3, but would remain on site slightly longer because of their

size class, but also gradually decrease over time. The dramatic increase in the number of snags associated with the wildfire is a result of small live tree mortality that occurs at current stand densities.

All of the Alternatives maintain trend lines that show little decrease in the number of large live trees (≥ 24" dbh) initially with or without treatment over time (results reflected in 2020) (Figure 2). With fire an increase in the number of live trees in larger size classes was predicted to occur after 2040 with each Alternative, as residual smaller trees that were not killed by the fire are released, and able to grow freely given lower stand densities.







Indicator 3: Change in the availability of potential nest trees (Giant Sequoias).

It is anticipated there would be no change in the availability or distribution of large giant sequoia trees with a selection of Alternative 1 since no fuel reduction actions would occur. Any existing giant sequoia trees with potential nest cavities would remain.

Alternative 2

Indicator 1: Disturbance related impacts from project actions

Alternative 2 proposes to treat approximately 1,400 acres within the 2,840 acre project area. Activities related to project implementation that have the potential to cause disturbance include increased vehicle noise, workers' presence, smoke from burning activities, and equipment noise for short or extended periods throughout the work day. Duration of project implementation is anticipated to span several months (late summer to fall) for a period of 2 to 4 years.

Historic use of the Forest by condors included flight paths that follow the west slope of the Greenhorn Mountains, north across the Tule River Indian Reservation, and then further north to Blue Ridge. The TRRP Project area lies within this flight corridor used by the species. Although there is suitable habitat for roosting and nesting purposes, there are no known occurrences of nest or roost sites used with sufficient frequency to define them as a historic use site within the project area. Roosting has occurred northwest but outside of the project area along the upper 2/3rds of the slope in the Long Canyon drainage as late as summer of 2012 by a single individual. Duration of the visitation extended only for an overnight period. Since 2009, this is the only known occurrence of a roosting condor within approximately 4 air miles of the TRRP Project area based on review of satellite data. Given the limited number of visitations to the Forest and short duration of condor use, opportunities for disturbance oriented effects from project actions are anticipated to be negligible. Monitoring of satellite data showing any condor use of the Forest is ongoing. Should satellite tracking showing potential

use of the TRRP project area; appropriate Limited Operating Periods (LOPs) would be established and implemented.

Indicator 2: Changes in the availability and distribution of large snag and live trees

There is little potential to effect a change in the availability and distribution of large snags or live trees with implementation of Alternative 2. Under this alternative, live tree removal is restricted to trees 12" dbh or less, with snags removed limited to imminent hazards. Modeling of snags ≥ 15" dbh shows no decrease in existing snag numbers over time. Instead, there is a steady increase. Large live trees ≥ 24" dbh also show a steady increase over time (Figures 1 & 2). Therefore adequate large live trees and snags are anticipated to remain post implementation for any future condor use that may occur.

The effect of the modeled wildfire showed an increase in the number of snags ≥ 15"dbh immediately after the wildfire but approximately 25% less than noted under Alternative 1 with wildfire (Figures 1 & 2). As with the No Action Alternative, a precipitous decrease in snag number occurs over time falling to approximately one snag less than at the beginning of the modeling cycle. As is the case with all the alternatives, there is little change in the number of large live tree (≥ 24" dbh) initially post wildfire until around 2040, where trend lines for each alternative with fire exceed those noted with no wildfire. In this alternative though, the increase is about 6% less than in the No Action Alternative.

Indicator 3: Change in the availability of potential nest trees (Giant Sequoias).

There is little potential for a change in nest tree availability with this alternative. Large giant sequoia trees with adequate cavity sizes to be utilized as nest trees are not being removed. Only trees 12" dbh or less are to be removed with an emphasis on retaining giant sequoia, oak and pine.

Alternative 3

Indicator 1: Disturbance related impacts from project actions.

This alternative proposes to treat approximately 2,830 acres of the project area. Disturbance related impacts include those discussed in Alternative 2. However, the duration of these impacts may extend over a longer period due to the increase in acres treated.

Indicator 2: Changes in the availability and distribution of large snag and live trees.

Implementation effects from this Alternative would be similar to those previously discussed under Alternative 2. Little change in the number of large snags or live large trees is anticipated to occur.

As is the case with all the alternatives with wildfire, there is little expected change in the number of large live trees (≥ 24" dbh) availability until around 2040, where an increase is seen verses in the absence of wildfire (Figures 1 & 2). In this alternative the number of available large trees remains closest to what occurs in Alternative 1 in the absence of fire. The effect of the modeled wildfire also shows an increase in snags ≥ 15"dbh immediately after the wildfire. The decrease in snags over time is much more gradual with snags ≥ 24" dbh and remain at higher levels than at the start of the modeling cycle.

Indicator 3: Change in the availability of potential nest trees (Giant Sequoias).

This alternative also has little potential for change in the availability of large giant sequoia trees that may provide cavities suitable for a nest tree as discussed in Alternative 2.

VII. CUMULATIVE EFFECTS ANALYSIS

Introduction - The intent of the cumulative effects (CE) section of the BA/BE is to place the proposed action in context with past, present, and reasonably foreseeable actions which, when considered collectively, may affect the species of concern. These actions may include both natural and human-caused events on Forest Service System Lands and those known on adjoining private property.

Methodology - The CE analysis does not attempt to quantify the effects of past human actions by adding up all prior actions on an action-by-action basis. There are several reasons for not taking this approach. First, a catalog and analysis of all past actions would be impractical to compile and unduly costly to obtain. Current conditions have been impacted by innumerable actions over the last century (and beyond), and trying to isolate the individual actions that continue to have residual impacts would be nearly impossible. Second, providing the details of past actions on an individual basis would not be useful to predict the cumulative effects of the proposed action or alternatives. In fact, focusing on individual actions would be less accurate than looking at existing conditions, because there is limited information on the environmental impacts of individual past actions, and one cannot reasonably identify each and every action over the last century that has contributed to current conditions. Additionally, by focusing on the impacts of past human actions, we risk ignoring the important residual effects of past natural events, which may contribute to cumulative effects just as much as human actions. By looking at current conditions, we are sure to capture all the residual effects of past human actions and natural events, regardless of which particular action or event contributed those effects. Finally, the Council on Environmental Quality issued an interpretive memorandum on June 24, 2005 regarding analysis of past actions, which states, "agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions."

For the purposes of this analysis, the vegetation layer utilized for baseline estimations of habitat was created from remote-sensing imagery obtained at various points in time, which are verified using photo-imagery, on-the-ground measurements, and tracking of vegetation-changing actions or events. It was updated in 2003 to reflect changes from the McNally Fire, and in 2010 with project specific stand exams. Therefore the TRRP Project Area is reflective of all past actions up through 2013. Past actions in the context of this analysis outside of the TRRP Project Area refer to those actions that have occurred since the last forest mapping in 2002 and as updated in 2003 (i.e. 2002 to present).

Defining Cumulative Effect Analysis Area – Given the condor's ability to traverse much of the forest in a day when present, the CE boundary for the assessment of cumulative effects was defined to encompass 222,250 acres. This area includes the southern portion of the Giant Sequoia National Monument and the majority of known roost locations and the historic nest site at Starvation Grove within the Western Divide Ranger District of the Sequoia National Forest. Table 5 displays a list of past, present, and reasonably foreseeable vegetation projects (forest harvest and fuels treatment) noted on Sequoia National Forest within the CE boundary since the last vegetation mapping update. It also identifies the total project acres and estimated portion that overlaps with the CE analysis area. Anticipated influence on key habitat indicators are identified as applicable for the species.

Table 5: Past, Present, and Reasonably Foreseeable Projects and their Effects on Habitat Indicators

Activity	Project Name	Project Area Acres	CE Area Acres Overlapping Project	Disturbance	Large Snags & Live Trees	Nest Trees (Giant Sequoia)
Commercial thinning Projects (removal of trees >12"dbh but ≤ 30"dbh), and fuels treatment (non-commercial thin and Rx burn)	Ice Fuels Reduction Helicopter Units only (2005)	358	277	Vehicle and equipment noise, crew workers presence could cause flushing of birds	Proposal would not remove live trees over 30"dbh. Some reductions expected in 12 - 29" dbh size class. Snag density not a limiting factor.	No impact to historic condor nest area within Starvation Grove. No cliff habitat in project area.
	Saddle Fuels Reduction (Under injunction)	2,000	1,843	Vehicle and equipment noise, crew workers presence could cause flushing of birds	Proposal would not remove live trees over 30"dbh. Some reductions expected in 12 - 29" dbh size class. Snag density not a limiting factor.	No impact to historic condor nest area within Starvation Grove. No cliff habitat in project area. Positive effect anticipated in ability to protect Starvation Grove from downslope fires running into the grove.
	White River (Under injunction, only partial completion, 2004 – 2007	1,809	108	Vehicle and equipment noise, crew workers presence could cause flushing of birds	Proposal would not remove live trees over 30"dbh. Some reductions expected in 12 - 29" dbh size class. Snag density not a limiting factor.	No impact to historic condor nest area within Starvation Grove. No cliff habitat in project area.
Fuels Reduction Projects - (non-commercial thinning (removal of small trees <12"dbh, and brush) and RX Burn (pile burn, or underburn).	White River (Partially implemented)	6540	191	Vehicle and equipment noise, crew workers presence could cause flushing of birds	No potential effects, large live trees and snags not treated in project	No potential effects, large live sequoia trees and snags not treated in project
	Camp Nelson Urban Interface Project	968	968	Vehicle and equipment noise, crew workers presence could cause flushing of birds	No potential effects, large live trees and snags not treated in project	No potential effects, large live sequoia trees and snags not treated in project
Fuels Reduction Projects - (non-commercial thinning	Ponderosa Urban Interface Project	1,100	1,100	Vehicle and equipment noise, crew workers presence could cause flushing of birds	No potential effects, large live trees and snags not treated in project	No potential effects, large live sequoia trees and snags not treated in project

Activity	Project Name	Project Area Acres	CE Area Acres Overlapping Project	Disturbance	Large Snags & Live Trees	Nest Trees (Giant Sequoia)
(removal of small trees <12"dbh, and brush)						
Roadside Salvage and Pile Burn	North Road	1,275	1275	Vehicle and equipment noise, crew workers presence could cause flushing of birds	No potential effects, large live trees and snags not treated in project	No potential effects, large live sequoia trees and snags not treated in project
Roadside Salvage and Pile Burn	Western Divide, Mountain Home and Lloyd Meadow Hazard Tree Abatement Projects	1,518	1,518	Vehicle and equipment noise, crew workers presence could cause flushing of birds	No potential effects, large live trees and snags not treated in project	No potential effects, large live sequoia trees and snags not treated in project
	Trail of 100 Giants Hazard Tree Abatement Project	50	50	Vehicle and equipment noise, crew workers presence could cause flushing of birds	No potential effects, large live trees and snags not treated in project	No potential effects, large live sequoia trees and snags not treated in project

For the purposes of ESA consultation, cumulative effects are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02).

Fire History: No wildfires of significant size have occurred within the cumulative effects analysis areas established for the species addressed since the last mapping update.

Recreational Activity: Recreation activities at designated campgrounds will remain similar within CE analysis areas, and are generally tied to road and trail related activities such as hiking, equestrian. Off highway vehicle or over the snow vehicle (OHV/OSV) uses are restricted to designated trails and roads only within the Monument.

Livestock Grazing: The majority of the established CE analysis areas contain portions of 17 grazing allotments under permit. Livestock grazing does not alter existing emergent live trees or snags that may serve as roost sites. Livestock grazing has been an ongoing activity prior to the establishment of the Forest, and is presently at substantially lower levels than what historically occurred. The presence of livestock in CE analysis area may have beneficial consequences for the condor. Livestock occasionally die through predation or natural causes and therefore can provide an incidental food resource.

Actions on State or Private Land

There are approximately 16,530 acres of Non-Forest Service Lands within the cumulative effects analysis area comprising about 7%. Reviews of past and foreseeable actions on non-Forest Service land were evaluated through available timber harvest plans (THP) registered in Tulare County with results displayed in Table 6. These actions are only applicable to cumulative effects analysis area identified for the California condor. Past,

present and foreseeable actions were estimated to include 1,357 acres or non-Forest Service land. All private harvest consisted of selection cut prescriptions which may include commercial thinning.

Table 6: Harvest on private lands within condor cumulative effects analysis area.

Year	Total/ Percent of CE Area
2002	402
2003	76
2004	63
2005	242
2008	128
2009	125
2011	323
Grand Total	**1357/ < 1%**

Summary of Forest Service and Private Land Actions

The TRRP Project Action Alternatives in light of past, present, and reasonably foreseeable actions would not result in negative influences to the California condor or its habitats. Tables 5 to 7 provide applicable summary information for habitat in the CE analysis area. Values were calculated for Alternative 3 since this Alternative would treat the most acres and represent the greatest potential influence. Alternative 2 treats approximately half the acres of suitable habitat available. Values were calculated for Alternative 3 since this Alternative would treat the most acres and represent the greatest potential influence. Alternative 2 treats approximately half the acres of suitable habitat available. Prior commercial harvest or fuels reduction projects on Forest Service Lands since the last mapping update in conjunction with the proposed action encompassed approximately 5% of the available habitat for the California condor habitat (Table 7). As evidenced in Table 6, prior actions on Non-Forest Service Lands are anticipated to have minimal influence on individuals or their habitats. Silvicultural prescriptions for previous projects on Forest Service System Lands were crafted under the SNFPA FEIS (USDA 2001). Therefore, specific standards and guidelines were incorporated to retain all large live trees and snags (30" dbh and greater) unless deemed a safety hazard, and to retain an adequate recruitment pool of mid-sized trees to provide for their replacement overtime. Some minor decreases in canopy cover are anticipated with fuel reduction work; however, these decreases are not anticipated to preclude use of existing habitat.

Table 7. Summary of past, present and foreseeable actions for species specific cumulative effect analysis areas.

C.E. Analysis Acres by Species		Current Acres of Suitable Habitat	Past/ Current Commercial Thin and Associated Fuels Treatment	Past /Current Fuels Reduction Projects (Non-commercial Thin and Burn	Acres of Habitat Affected by TRRPP Action Alternatives	Total Habitat Acres Affected by Past, Present, and Foreseeable Actions and Percent of CE Analysis Area
California condor	N.F.	205,420	2,228	5,102	2,840	10,170 (< 5%)
	Non FS	16,830	1,357	0	0	1,357 (< 1%)
N.F. = National Forest, Non FS = Non-Forest Service Lands						

VIII. DETERMINATION

Although there have been no known roosting or nesting occurrences to date within the TRRP Project area, because the project area lies within the range of the species and noise disturbance from implementation activities has the potential to flush individuals should they be within or near the project area, it is my

determination that the preferred alternative, Alternative 3, of the Tule River Reservation Protection (TRRP) Project **May Affect but is not likely to adversely affect the California condor**. I also render a determination of **No Effect for California condor designated Critical Habitat**. The project area is removed from any designated critical habitat.

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APPENDIX A:

A **No Effect** determination was issued for Federally Threatened/Endangered/Proposed Species or Candidate species as listed in Table A-1. Rationale and discussions are provided below.

Table A-1. Threatened, Endangered, Proposed, or Candidate Species, Sequoia National Forest

Common Name (Scientific Name)	Status*	Habitat Requirements	Occurrence in SQF	Rationale
Southwestern willow flycatcher (Empidonax traillii extimus)	FE	Species occurs in densely vegetated riparian habitats, preferring streamside associations of cottonwood (Populus sp.), willow (Salix sp.), and other riparian vegetation. Critical habitat was designated for the southwestern willow flycatcher on October 19, 2005 (70 FR 60886). None of the Critical Habitat designated occurs on Forest Service Land in the project area.	Resident Southwestern willow flycatchers have been documented in the SFWA since 1982. All nesting occurrences limited to the SFWA, and private lands on the south fork of the Kern River.	No suitable habitat in the TRRP Project.
California bighorn sheep (*Ovis canadensis californiana*)	FE	Rugged mountain areas, mostly eastern Sierra with small historic range on western edge of Kern Drainage	Historic range within GTW, Western Divide District.	Project area is outside historic range.
California red-legged frog *(Rana aurora draytoni)*	FT	Low gradient streams and ponds with emergent vegetation	No historical detections. Most streams high gradient, high spring flow.	Project area outside area of historical detections.
Delta smelt (Hypomesus transpacificus)	FT	Limited to San Joaquin/Sacramento delta	None. No outlet from Sequoia NF to Delta.	Project area extremely removed from San Joaquin/Sacramento Delta.
Little Kern golden trout (*Oncorhynchus mykiss whittei*)	FT, CH	Native to cold water streams in Little Kern Drainage	45,000+ acres critical habitat in Little Kern. 4,500 acres outside of wilderness	Project area outside Little Kern River Drainage.
Plant Species				
Springville clarkia (*Clarkia springvillensis*)	T	Localized endemic. Associated with annual grassland, oak-woodland and low elevation chaparral types.	Distribution limited to North and Middle Forks of the Tule River in central Tulare county.	No suitable habitat types within project area
Candidate Species				

Table A-1. Threatened, Endangered, Proposed, or Candidate Species, Sequoia National Forest				
Common Name (Scientific Name)	**Status***	**Habitat Requirements**	**Occurrence in SQF**	**Rationale**
Fisher (*Martes pennanti*)	C	Habitats utilized included true fir, Sierra mixed conifer, montane hardwood/conifer, montane hardwood, white fir and lodgepole pine	Documented occurrence in the project area noted from the Greenhorn Mountain north.	Species Addressed in the Biological Evaluation for the TRRP Project (R.Galloway 2013)
Mountain yellow-legged frog (*Rana muscosa)*	C	MYLF inhabits ponds, lakes, and streams in montane riparian, lodgepole pine, subalpine conifer and wet meadow habitat types from 4,500 feet to over 12,000 feet elevation. Prefer well illuminated, sloping banks of meadow streams, riverbanks, isolated pools and lake borders with rocks or vegetation at the wetted edge.	Three documented populations found on the Forest, all occur in the Little Kern drainage in the Golden Trout Wilderness. No historic populations previously documented in the TRRP project area, existing habitat unsuitable for the MYLF, and no individuals detected through stream surveys.	Species addressed in the Biological Evaluation for the TRRP Project (R.Galloway 2013).
*FE = Federally Endangered, FT = Federally Threatened, PT = Proposed for Federal listing, C = Candidate Species, CH = Designated Critical Habitat.				